

What is claimed is:

1. In a data packet router, a method for redirecting packets destined for a port, comprising the steps of:
 - 5 (a) monitoring port status on a continuing or periodic basis;
 - (b) updating a port-status table, listing port status as active or failed and an alternative destination for each port;
 - (c) checking the table by circuitry along a packet route for a packet en route; and
 - 10 (d) sending the received packet to the predestined port if the port is listed in the table as active, and sending the received packet to the alternative destination if the port is listed in the table as failed.
2. The method of claim 1 wherein the port-status table is stored in a fabric interface circuitry and checking and redirecting is implemented in the fabric circuitry.
- 15 3. The method of claim 1 wherein the port-status table is stored in one of a Global Fabric ASIC on a line card or a Packet Processing ASIC (PPA) on a line card, and redirection is enabled by a CPU on the line card.
- 20 4. The method of claim 1 wherein the operations of the interface circuitry in steps (c) and (d) are implemented in hardware logic.
- 25 5. The method of claim 1 wherein, in step (d) the alternative destination is a PPA on an alternate line card.

6. The method of claim 1 wherein pre-destinations and alternative destinations are noted by destination tags associated with packets in process.

- 5 7. A router card enabled for Automatic Protection Switching (APS), and comprising:

one or more circuits enabled for forwarding data packets; and
a port-status table;

- characterized in that the port-status table lists individual port's status
10 as active or failed, and also alternative destinations for the ports, and in that packets predestined for failed ports are redirected to alternative ports.

8. The card of claim 7 wherein the card is a line card comprising one or more Global Fabric application-specific integrated circuits (GFRs) as
15 interface circuits to interconnecting fabric.

9. The card of claim 7 wherein the card is a fabric card interconnecting line cards.

- 20 10. The card of claim 7 wherein the operations of the one or more circuits for forwarding are implemented in hardware logic.

11. The card of claim 7 wherein the alternative destination for a redirected packet is a port on a line card.

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12. The card of claim 7 wherein pre-destinations and alternative destinations are noted by destination tags associated with packets in process.

13. A data packet router having externally-facing line cards internally connected by fabric cards, wherein individual ones of the cards comprise:

- 5 one or more circuits enabled for forwarding data packets; and
 a port-status table;
 characterized in that the port-status table lists individual port's status as active or failed, and also alternative destinations for the ports, and in that packets predestined for failed ports are redirected to alternative ports.

- 10 14. The router of claim 13 wherein the line card comprises one or more Global Fabric application-specific integrated circuits (GFRs) as interface circuits to interconnecting fabric.

- 15 15. The router of claim 13 wherein the operations of the one or more circuits for forwarding are implemented in hardware logic.

16. The router of claim 13 wherein the alternative destination for a redirected packet is a port on a line card.

- 20 17. The router of claim 13 wherein pre-destinations and alternative destinations are noted by destination tags associated with packets in process.

- 25 18. The method of claim 1 wherein the port status table is a distributed table with portions stored in separate places.

19. The method of claim 1 wherein the alternative destination is on the same line card receiving and redirecting the packets.

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